INVESTIGATION OF THE PROTEIN FRACTIONS IN GOAT MILK WITH RP-HPLC TO OPTIMALIZE THE MILK PROCESSING

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ABSTRACT – Investigation of the protein fractions in goat milk with RP-HPLC to optimalize the milk processing

The amount of protein in milk (which varies between different species of mammals) is critical to its commercial, technological and biological value. Caprine milk differs from cow milk in several physico-chemical characteristics, which explain major differences in the technological behaviour of the two milks. Goat milk also has different proportions of the four major caseins (α_{s1}, α_{s2}, β, κ) compared to cow counterparts, and there are great variations, especially between α_{s1}-casein and α_{s2}-casein contents between individuals and breeds of goats, because of the occurrence of genetic polymorphisms for all milk proteins, which influence greatly their cheese making properties.

The aim of our study was to adopt BORDIN's (2001) RP-HPLC method for analysis the casein fractions of denatured goat milk samples. The separation of main caseins (α_s, β, κ) was successful by ion-pair reversed phase HPLC with the help of casein standards originated from cow milk. Our results are well correlated with the data of references.

Keywords: goat milk, casein fractions, separation, HPLC